



Amendment GC81

Fishermans Bend- Wirraway

Expert Urban Design Evidence

Mark Sheppard

March 2018

Instructed by

Norton Rose Fulbright, Planning & Property Partners and
Russell Kennedy

On behalf of

Various landowners



Contents

1.0 Introduction.....	2
2.0 Context	4
3.0 Proposed planning framework	8
4.0 Assessment.....	11
4.1 Urban structure.....	11
4.2 Open space	13
4.3 Density	15
4.4 Built form	17
5.0 Conclusion and recommendations	24
Appendix A: Analysis of Individual Sites	26
Submitter 131.5: 332 Plummer Street and 21 Smith Street, Port Melbourne	27
Submitter 150: 541 Graham Street, Port Melbourne	32
Submitter 217.1: 320 Plummer Street, Port Melbourne.....	37
Submitter 217.2: 365-391 Plummer Street, Port Melbourne	42
Submitter 217.3: 17 Rocklea Drive, Port Melbourne	47
Appendix B: Site Assessment Assumptions	51

1.0 Introduction

- [1] I am a Principal of town planning and urban design consultants David Lock Associates (Australia) Pty Ltd (DLA). I hold qualifications in architecture and urban design. I have over twenty-five years' professional experience and have practised exclusively in the field of urban design since 1993. Further details of my qualifications and experience are outlined in Appendix A of my overarching evidence.
- [2] In January 2018, I was instructed by Norton Rose Fulbright, Planning & Property Partners and Russell Kennedy, on behalf of a number of landowners, to provide an independent urban design assessment of Amendment GC81. These landowners and their properties are identified in Appendix B of my overarching evidence.
- [3] In addition to the Amendment documentation and background documents provided to the parties, I have had the benefit of reviewing the urban design, planning, open space and transport evidence circulated by the Minister for Planning, and Melbourne and Port Phillip City Councils.
- [4] I attended the public briefing on 13 February 2018, and have listened to most of the cross-examination of Ms Hodyl and the presentation of Professor Adams.
- [5] My previous professional involvement in the Fishermans Bend area is summarised in Appendix C of my overarching evidence. This includes leading the preparation of a Structure Plan for the South Melbourne Industrial Precinct (the area subsequently renamed Montague).
- [6] In addition to the South Melbourne Industrial Precinct (Montague), I have led or been involved in the preparation of strategic plans for numerous urban renewal precincts, including the Sydney Road, Bridge Road and Victoria Street corridors, Highpoint, Forrest Hill, Balaclava, Preston Central, Dandenong Central, South Melbourne Central, St Albans, Darebin High Street and Footscray Central in Melbourne; and the Redfern and Waterloo housing estates, part of Wentworth Point, the Macquarie Park Corridor, St Leonards and the Carter Street Precinct in Sydney.
- [7] My evidence addresses matters of urban structure, street networks, density, built form and siting, and building design. It does not address questions relating to affordable housing, reverse amenity impacts, the selection or construction of planning tools, public infrastructure delivery mechanisms, development contributions, transport or car parking.
- [8] This statement assesses the urban design issues specific to Wirraway. It builds on my overarching evidence, which assesses the overall approach taken in developing the proposed planning framework, and the general urban design provisions.

- [9] I have organised my assessment of the Amendment's proposals for Wirraway as follows:
- **Section 2** outlines the Wirraway precinct's physical and current planning context, including its features that present key opportunities and challenges for urban renewal.
 - **Section 3** summarises the key urban design aspects of the Amendment as they relate to the Wirraway precinct.
 - **Section 4** provides my assessment of the urban structure, street network, open space, density, and building height parameters proposed for Wirraway.
 - **Section 5** summarises my detailed recommendations in relation to Wirraway.
- [10] I have assessed the impact of the proposed planning framework on each of my clients' sites at Appendix A. Appendix B summarises the assumptions I have made in applying the proposed planning controls to these sites. This has informed my assessment in Section 4.
- [11] I have considered the submissions to the exhibition which relate to my clients' properties, and those with urban design implications identified in submission summaries included in the Minister's Part A submission and other expert witness reports. These have informed my assessment.
- [12] I was assisted in the preparation of this report by Susan Mitchell, Amy Ikhayanti, Cynthia Herkrath and Vincent Pham of DLA.

2.0 Context

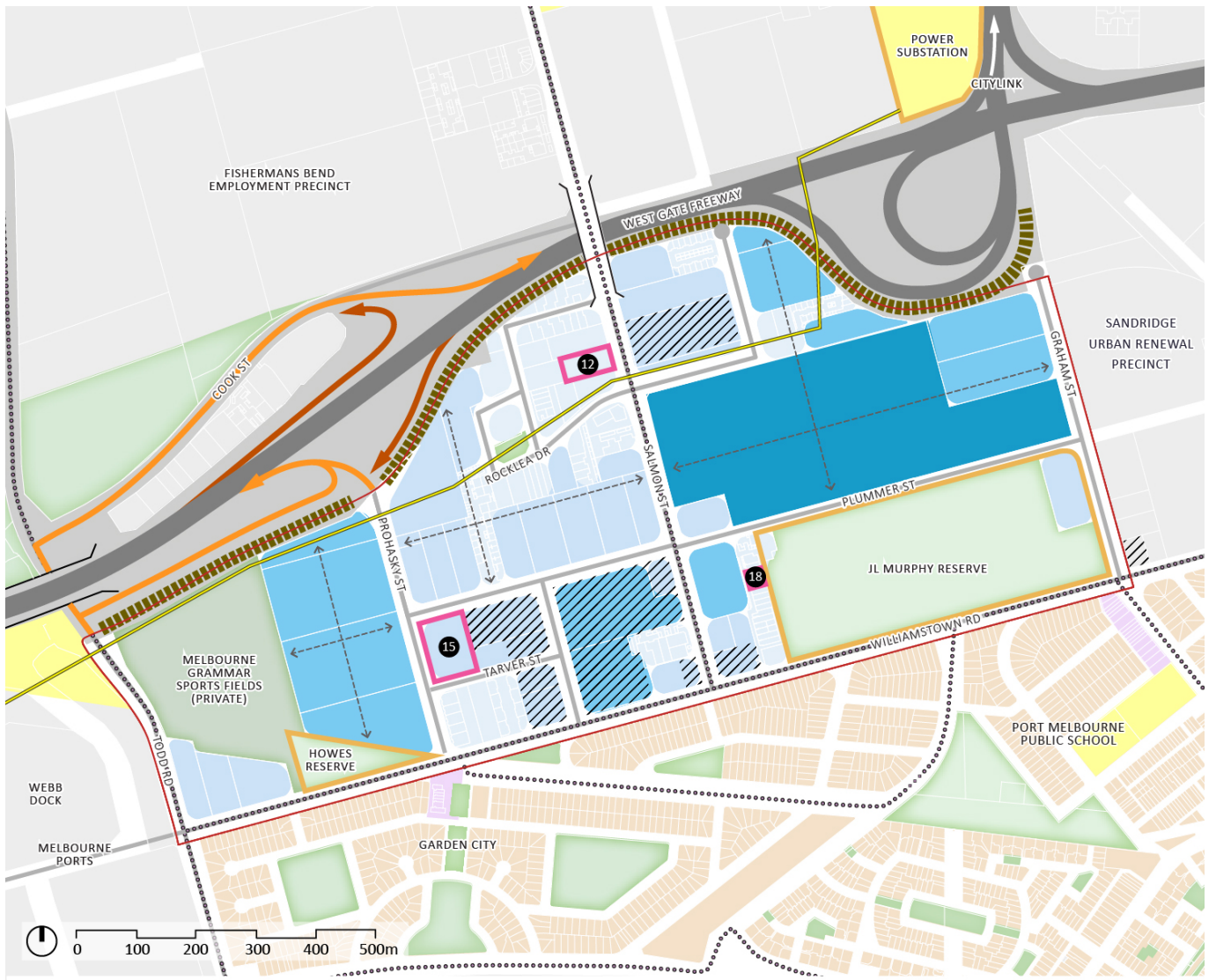
[13] The physical context of Wirraway is illustrated in the figures below and overleaf.



Oblique aerial photo of the Wirraway precinct (source: Nearmap)

[14] The features of Wirraway that support urban renewal include:

- Close to Port Phillip Bay.
- Direct access to and from the West Gate Freeway via Cook Street and Prohasky Street.
- Predominantly large and moderate size lots offering flexibility for a more efficient site layout and on-site amenities.
- 2 road links under and over the Westgate Freeway which connect to the Employment precinct.
- 2 large public open space areas within the precinct, and Westgate Park just beyond to the west.
- 30m wide Williamston Road which provides a visual buffer to the existing fine grain, heritage residential precinct to the south.
- Wide main and secondary roads.



LEGEND

- | | | | |
|--|-------------------|----------------|--------------------------|
| PRECINCT BOUNDARY | BUS ROUTE | ZONING: | LOT SIZE: |
| APPROVED DEVELOPMENT/STOREYS | LIGHT RAIL STOP | C1Z | SMALL (0- 0.15 Ha) |
| PUBLICLY OWNED LAND | LIGHT RAIL ROUTE | C2Z | MEDIUM (0.15- 2 Ha) |
| PUBLIC OPEN SPACE | ROAD/END OF ROAD | INZ | LARGE (2- 7 Ha) |
| EXISTING RESIDENTIAL AREA (SOME IN HERITAGE OVERLAY AREAS) | FREEWAY | MUZ | EXTRA LARGE (7- 14 Ha) |
| INDIVIDUAL HERITAGE OVERLAY SITES | FREEWAY EASEMENT | PUZ | LARGE IMPERMEABLE BLOCKS |
| BARRIER | ACCESS TO FREEWAY | | |
| BRIDGE OVER | EXIT OFF FREEWAY | | |

Wirraway Urban Context

^[15] The features of Wirraway that present challenges for urban renewal include:

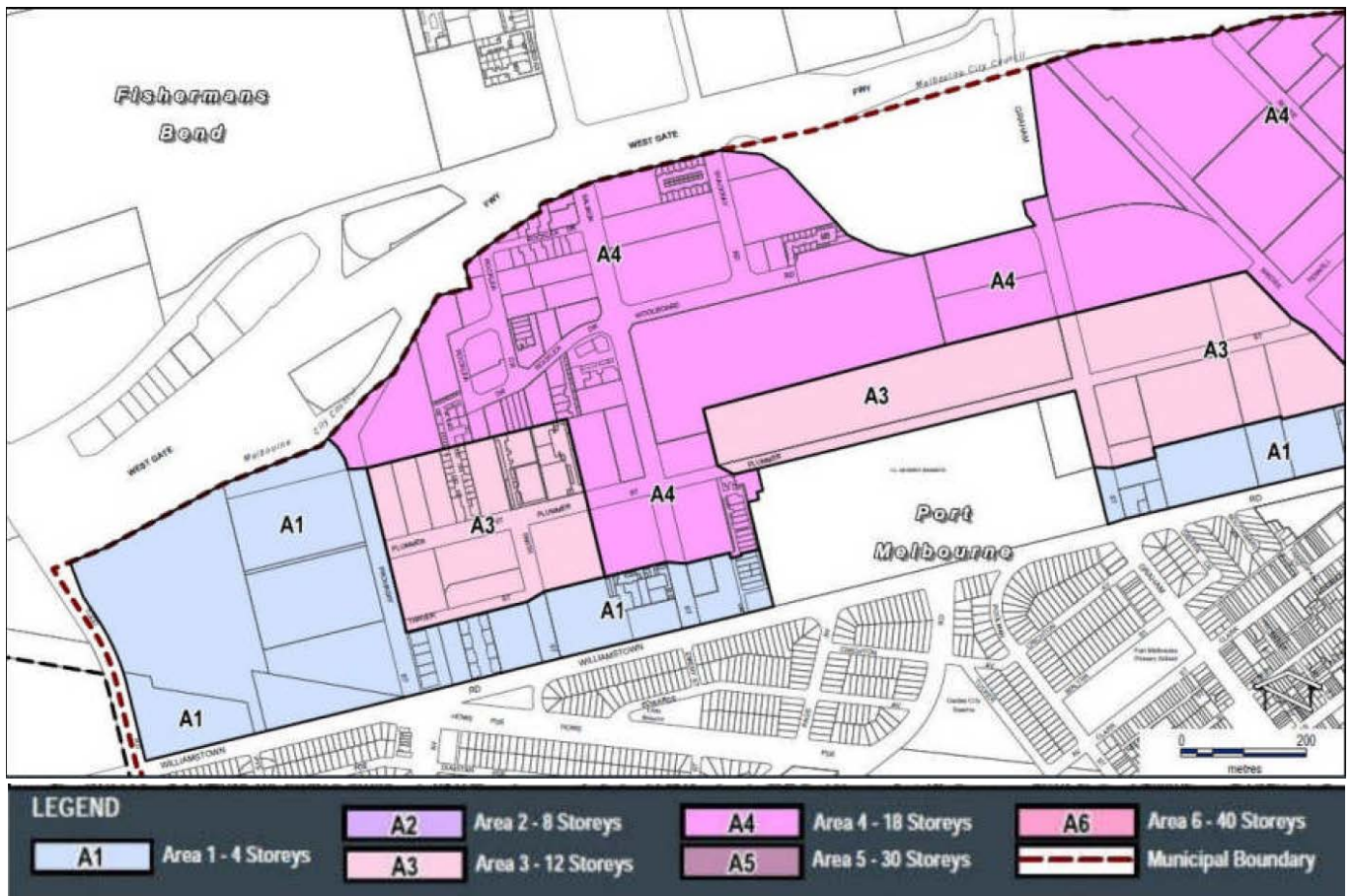
- Very limited public transport accessibility.
- Northern physical barrier as a consequence of the Westgate Freeway with only two crossings at Salmon Street (bridge) and Todd Road (underpass).
- Large impermeable blocks.
- Limited road connections through the site and to the neighbouring areas.
- Several large heritage sites (although some of the building / structures of heritage value do not occupy the whole site).
- Sensitive southern interface with low-rise heritage residential area.
- Generally poor streetscape amenity.

^[16] The principal current planning controls from an urban design perspective that apply in Wirraway are as follows:

WIRRAWAY – CURRENT CONTROLS

- Capital City Zone, Schedule 1 (CCZ1)
- Design and Development Overlay, Schedule 30 (DDO30)

BUILT FORM ELEMENT	REQUIREMENT
Building height	Mandatory maximum: A1 – 4 storeys A3 – 12 storeys A4 – 18 storeys
Street wall height	Mandatory maximum 5 storeys or 20m, whichever is lesser
Tower setback	Mandatory minimum 10m to the street edge Mandatory minimum 10m to all other boundaries Setback can be taken from centre of laneway (if applicable)
Tower separation	Mandatory minimum 20m



Current DDO67 Map extract

3.0 Proposed planning framework

"A family friendly inner city neighbourhood close to the Bay and Westgate park"

Planning for Wirraway 2050

	2018	2025	2050
Population projections	200	360	17,600
Household number projections	155	200	6,822
Job projections	2410	2740	4000
Open space (hectares)	12.49ha	12.49ha	26.73ha

Total precinct size (hectares)

Gross: 94ha

Net developable site area: 58ha



Infrastructure delivery – key projects

Sustainability goal reference

Timeframe

Medium term

- Objective 3.6 1 Deliver JL Murphy Reserve upgrades
- Objective 3.1 2 Fishermans Bend Education and Community Hub (secondary school)

Long term

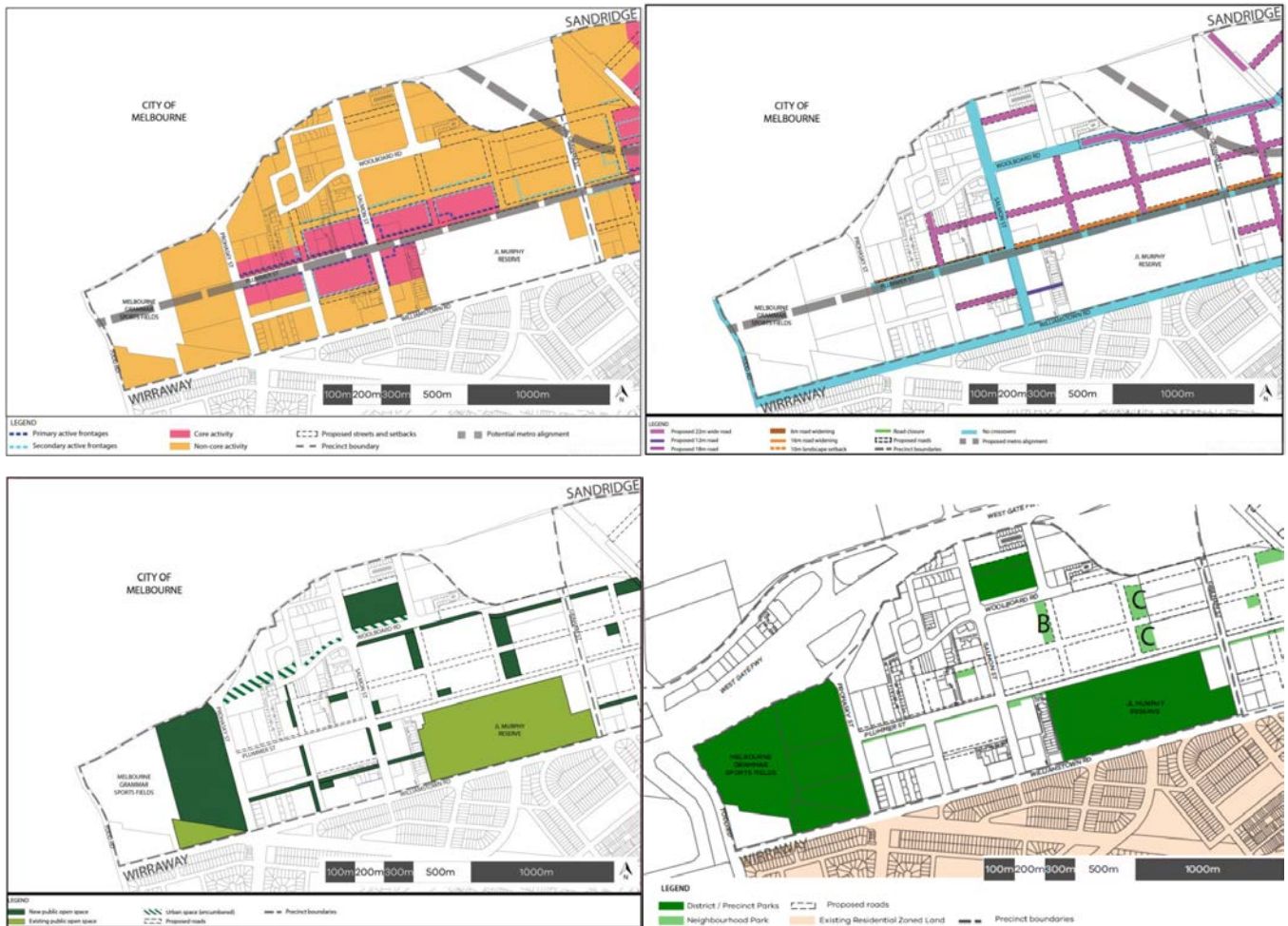
- Objective 3.1 3 Wirraway Health and Wellbeing Hub
- Objective 3.1 4 Wirraway Arts and Cultural Hub
- Objective 3.1 5 Wirraway Education and Community Hub
- Objective 3.7 6 Prohasky South open space
- Objective 3.7 7 Prohasky North open space
- Objective 1.1, 1.2, 1.3, 1.5 8 Southern tram corridor
- Objective 3.7 9 Wirraway East open space
- Objective 3.1 10 Wirraway Sport and Recreation Hub
- Objective 3.7 11 Wirraway North open space
- Objective 1.1, 1.2, 1.3, 1.5 12 Salmon Street bridge widening
- Objective 1.2, 1.3, 1.5 13 Rocklea Drive walk and cycle bridge
- Objective 1.2, 1.3, 1.5 14 Thackray Street walk and cycle bridge
- Objective 1.1 15 Potential underground rail

Windows Ir

Draft Framework, Page 76



Draft Framework, Figure 22



Maps from the proposed CCZ and DDO



Map 2 from the proposed DDO

[17] The density and built form provisions of the proposed CCZ and DDO schedules in relation to Wirraway are summarised below:

GROSS AREA 94 HA / NET DEVELOPABLE AREA 58HA

- Capital City Zone, Schedule 1 (CCZ1)
- Design and Development Overlay, Schedule 30 Fishermans Bend Development Urban Renewal Areas (DDO30)
- Fishermans Bend Urban Renewal Area local planning policy

ELEMENT	REQUIREMENT
	<div style="display: flex; justify-content: space-between;"> Core Non-core </div>
FAR	<div style="display: flex; justify-content: space-between;"> <div> <p>Maximum 4.1:1 for dwelling use</p> <p>Minimum 1.9:1 for non-dwelling use</p> </div> <div> <p>Maximum 2.1:1 for dwelling use</p> </div> </div>
Building Height	<div style="display: flex; justify-content: space-between;"> <div> <p>Maximum 42.2m-80.6m (12-24 storeys)</p> </div> <div> <p>Maximum 15.4m-23m (4-6 storeys)</p> </div> </div>
Dwelling density	<div style="display: flex; justify-content: space-between;"> <div> <p>Maximum 139 d/ha</p> </div> <div> <p>Maximum 131 d/ha</p> </div> </div>

4.0 Assessment

4.1 Urban structure

- ^[18] The proposed Port Phillip MSS contains the following statement of key elements of the urban structure for the Wirraway Precinct:

The heart of Wirraway is the intersection of Plummer Street and Salmon Street which is the focus of activity with an active and engaging pedestrian experience along Plummer Street Boulevard. Key public transport spine and interchange node created along Plummer Street with the extension of the Southern Tram Route, bus routes and potential for the underground metro rail station located at the junction with Salmon Street. These provide direct connections to Sandridge, the CBD, Docklands and the Fishermans Bend Employment Precinct (NEIC). JL Murphy Reserve is a focus for active recreation with organised sports during the day and night. New Open Space is created at Prohasky Reserve, and in Wirraway North and Wirraway East, linked by green linear parkway and a network of smaller open spaces. A network of new streets and laneways transform existing industrial scale blocks into a walkable neighbourhood. High quality walking and cycling links provide easy access to, from and within the neighbourhood.

New and upgraded bridges over the Freeway at Rocklea Drive, Salmon Street, Thackray Street and Graham Street provide public transport, bike and pedestrian access to the Fishermans Bend Employment Precinct (NEIC). The largest Arts and Cultural Hub in Fishermans Bend is delivered as part of mixed use development, located in the proximity to the Southern Tram Route along Plummer Street. An Education and Community Hub (secondary) and an Education and Community Hub (primary) ae [sic.] delivered as part of mixed use development. These are located in the 'investigation areas' in close proximity to open space and the tram route. A Health and Well-Being Hub is delivered as part of mixed use development, located within the 'investigation area' located centrally in the precinct. A Sports and Recreation Hub is delivered as part of mixed use development, located within the 'investigation area' adjoining Williamstown Road.

- ^[19] The proposed MSS contains the following statement of preferred future character for Wirraway:

Wirraway is a family-friendly inner city neighbourhood close to the Bay and Westgate Park. Known for being leafy and green, with tree lined streets, small parks, plazas and playgrounds, with easy walking and cycling access to Westgate Park and Sandridge

Beach. The neighbourhood centre supports local jobs, cafes, restaurants, local shops and businesses and a high degree of housing choice, including medium scaled apartment buildings with a focus on family friendly housing. It also accommodates Fishermans Bends' largest Arts and Cultural Hub and is known for its thriving arts scene and as a place for innovation and creativity. Small galleries, art and design centres and cultural facilities attract visitors from across Melbourne and beyond.

- [20] I support this vision.
- [21] The proposed planning framework provides for an underground metro line through the middle of Wirraway, and a tram route running along Plummer Street and turning down Prohasky Street towards Garden City.
- [22] New streets are proposed to create a more permeable movement network and more development frontages. New pedestrian and cycle bridges are also proposed over the West Gate Freeway at Rocklea Drive and Thackray Street, linking the precinct with the Employment precinct, while the Salmon Street bridge is also proposed to be upgraded.
- [23] I support the introduction of public transport and a finer-grain street network. I also support the introduction of new pedestrian and cycle links to the Employment precinct, which will be essential if the ambition for self-containment and a high walking and cycling mode share is to be achieved.
- [24] No detail has been provided on the proposed design of each street. However, I assume that the purpose of the 10m landscape setback and 16m widening on the north side of Plummer Street are to provide for the creation of a boulevard that incorporates a tramway.
- [25] The parts of 359 -391 Plummer Street (including submitter 217.2) that are designated non-core are proposed to be entirely occupied by new roads. This means that the development potential of those parts of the site (e.g. 7,400m² for 365-391 Plummer Street) are simply lost. There is no mechanism for the 'lost' floor area to be transferred to the core parts of these sites. This raises a question about the proposed mechanism for acquiring land for new roads.
- [26] If the non-core parts of these properties were included within the core area, then the floor area associated with them would be able to be included within their overall development.
- [27] I discuss the proposed number of jobs in Wirraway in my overarching evidence, where I note that:

Even if it is assumed that the metro line will be built, there remains uncertainty about which alignment will be adopted. This calls into question the proposed provision of 4,000 jobs in Wirraway (the same number as Montague, and only 33% less than Lorimer). It would be unreasonable to expect a greater proportion of development in the Wirraway core to be non-dwelling than in the Lorimer and Montague cores, which would then have better public transport accessibility.

- [28] In relation to community facilities, in the medium term, J.L. Murphy Reserve is proposed to be upgraded, and an education and community hub (secondary school) is proposed to be established somewhere around it. In the long term, a health and wellbeing hub, arts and cultural hub, and an additional education and community hub are proposed.
- [29] I support the introduction of community facilities to serve the new community and contribute to local identity.
- [30] A new elevated freight route is proposed along the northern edge of Wirraway. This could severely compromise the amenity and development potential of adjoining land. Therefore, its exact nature and alignment needs to be confirmed to provide certainty around planning for this part of the precinct.

4.2 Open space

- [31] In addition to J.L. Murphy Reserve, major new parks are proposed in the north and west of the precinct—‘Wirraway North open space’ and Prohasky North and South open spaces, along with a series of medium-sized and smaller parks. A number of linear parks are proposed linking these parks. The total proposed open space area is 3.9ha, which represents 13.4% of the precinct area.
- [32] Ms Thompson proposes amendments that would marginally increase the open space area to 23.5ha, which represents 26% of the precinct area and 13.3m² per resident. These include:
- An additional park at 6 Rocklea Drive, immediately north of the transmission easement to improve accessibility to open space in that part of the precinct.
 - Enlarging the proposed open space on the southeast corner of Smith and Tarver Streets, to incorporate existing trees.
 - Relocating the proposed open space across Plummer Street from the western end of J.L. Murphy Reserve further north, and enlarging it, to protect a large mature tree.

[33] I accept Ms Thompson’s advice, although I query whether the protection of existing trees should determine the distribution of open space in a renewal area.



Recommended changes to open space in Ms Thompson’s evidence, Figure (viii)

[34] I note that Ms Thompson’s proposed changes may affect the equity of the land acquisition mechanism and the ability of these properties to realise their notional maximum floor area within the proposed building envelope controls.

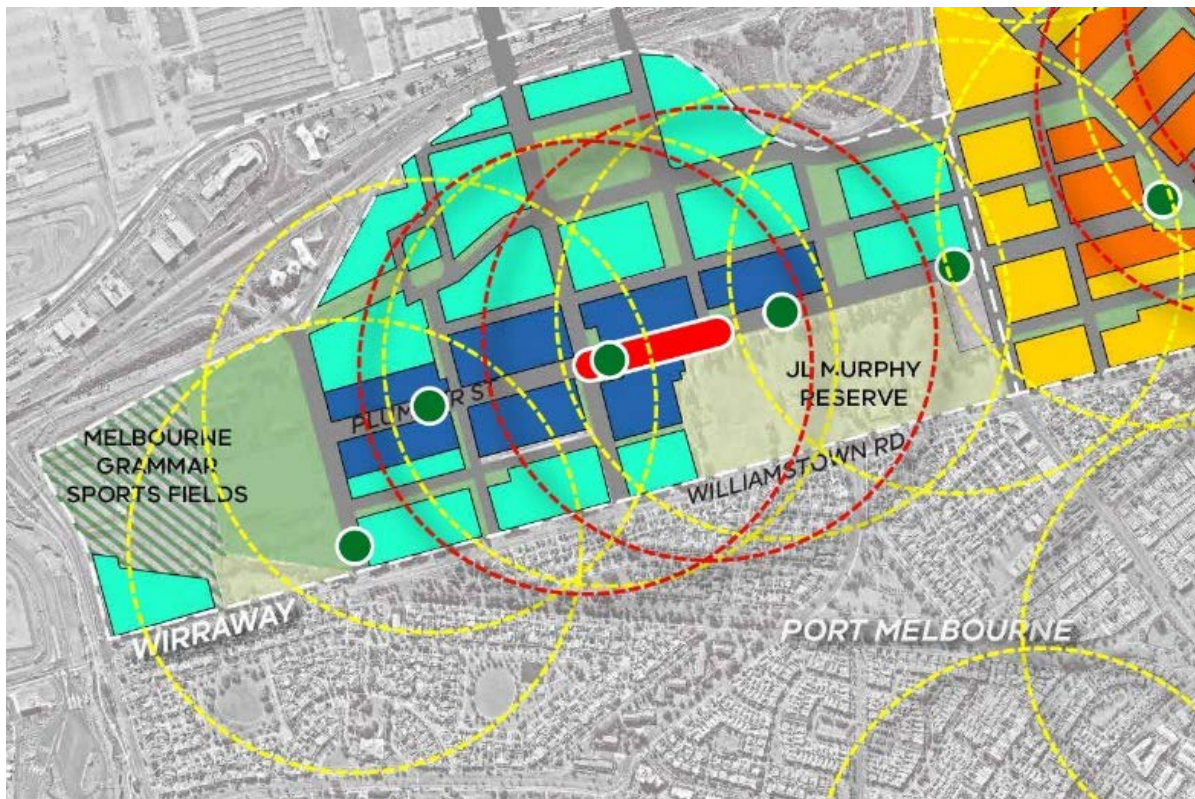
[35] As noted in my overarching evidence, I consider that the overshadowing controls should be discretionary to provide the flexibility to consider whether any proposed shadowing would have a material effect on the amenity of the open spaces.

4.3 Density

[36] The proposed planning framework identifies a core area with a maximum floor area ratio of 4.1:1 (although there is no limit to the extent to which non-dwelling floor area can exceed this ratio) and a minimum non-dwelling floor area of 1.9:1. In the non-core area, the maximum floor area ratio is 2.1:1.

[37] I discuss the proposed density of development in Wirraway extensively in my overarching evidence. In summary, I consider that:

- The proposed density in the whole of Wirraway (73 dwellings and 187 residents per hectare), is well below the predominant range of 250-350 people per hectare found in comparable inner city precincts. I do not consider that this optimises the contribution of Wirraway to accommodating Melbourne's growth. Nor is it necessary in order to achieve 'family-friendly housing'.
- The proposed maximum densities in Wirraway do not appear to reflect the potential for a metro station, being less than the proposed maximum densities in both Lorimer and Montague, neither of which are proposed to have a station.
- The Wirraway core only extends 100-250m from the tram line and excludes a section of Plummer Street. This may be sufficient to accommodate the employment space sought, but there is no reason for the extent of higher residential density to be so limited.
- This is exacerbated by the rigid and abrupt nature of the change in density between core and non-core areas. All of Wirraway will be well served by public transport if the proposed rail and tram routes are built (and even if the metro line is not). So it is unclear why the density should drop off so 'sharply' one block from Plummer Street, or in the section of Plummer Street between the Wirraway and Sandridge cores.



400m (approx. 5 minute) walkable catchments from proposed train stations (red) and existing and indicative tram stops (stops in green, catchments in yellow)

- I have identified alternative models of higher density development to that proposed in the non-core area of Wirraway which could increase its density to approximately 3.2-3.6:1, while maintaining a distinctive character and providing high quality living environments (see Appendix E of my overarching evidence).
- Increasing the density for the non-core area of Wirraway from 2.1:1 to 3.4:1 would provide approximately an additional 3,700 dwellings, and increase the overall population density for the precinct to 290 residents per hectare (within the range of densities of the comparable inner city precincts). This is not to say that 3.4:1 is necessarily the correct figure, but merely to illustrate the potential benefit of higher densities.

^[38] My analysis of a number of individual sites (see Appendix A) indicates that there is a substantial discrepancy between the proposed maximum FARs and development potential within the proposed building envelopes. Substantially greater density could be achieved without exceeding the preferred maximum heights or compromising the other built form requirements, including those to do with overshadowing. This indicates

that the maximum FARs represent a substantial underdevelopment of the land.

- [39] This is highlighted by consideration of 541 Graham Street, where the maximum GFA allowable under the FAR and its 30% communal open space can be achieved on only 40% of the site (because 60% is required for new roads and public open space).
- [40] Therefore, I consider that the proposed FAR controls need to be reviewed to determine the optimum balance between contributing to Melbourne's growth and ensuring high quality environments. I note that Mr McPherson also holds this view.

4.4 Built form

- [41] The Urban Design Strategy defines the preferred building typology in Wirraway (at page 88) as follows:

The primary focus of Wirraway is to support family-friendly housing. The residential density targets here are lower than the other three precincts. Within the new activity core taller buildings are supported to define this centre, however these should ensure that the southern side of Plummer Street is not overshadowed. Generally 6 storey height limit in the non-core areas is proposed, reducing to 4 storeys at the interface to low-scale neighbourhoods to the south.

- [42] As noted in my overarching evidence, I support the principle of medium-rise development in the majority of this precinct, to create a character that is distinct from the podium-tower format development in other precincts. However, I consider that the density should still be optimised, to maximise this precinct's contribution to growth.
- [43] The proposed DDO schedule provides for buildings of:
- 80.6m (24 storeys) in the core of the precinct, except fronting the north side of Plummer Street and at the western and eastern ends where the maximum height is 10 and 12 storeys
 - 23m (6 storeys) in the non-core areas, except south of Tarver Street
 - 15.4m (4 storeys) south of Tarver Street, with the southern half of that block (fronting Williamstown Road) a mandatory height limit

- [44] The area of podium-tower development in Wirraway is generally limited to the Plummer Street spine between Prohasky Street and J.L. Murphy Reserve. I support the principle of limiting podium-tower developments in Wirraway to Plummer Street—to reinforce its role as a 'civic spine'—and
-

generally excluding them from the land immediately north of the Reserve to protect its solar access.



Figure 11 Wirraway perspective view (view from south): In this illustration all sites are also modelled to the proposed FAR of 4.1 (core area) and 2.1 (non-core area) and in compliance with the built envelope controls (including overshadowing requirements). This demonstrates a variety of potential design responses that are possible within the proposed controls, including the delivery of family-friendly housing (mid-rise buildings with communal open space in the non-core area)

- | | |
|-------------------------------|---|
| Public open space | Building GFA delivered through FAR (Core) |
| Winter overshadowing controls | Building GFA delivered through FAR (Non-core) |
| Spring overshadowing controls | Heritage buildings |
| No overshadowing controls | |
| Private open space | |

Ms Hodyl's evidence, Addenda 2, Figure 11

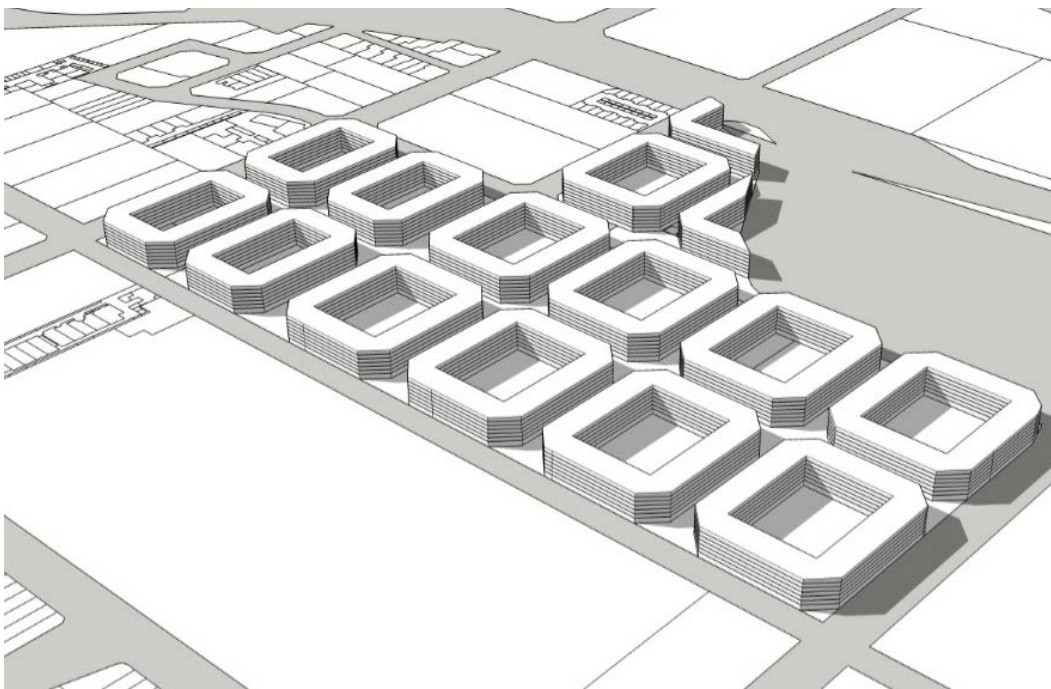
^[45] However, the proposed maximum heights do not reflect an existing, emerging or surrounding character. Indeed, they ignore the fact that there are 12-15 and 18-storey approvals in areas proposed to have a maximum height of 10 storeys (320 Plummer Street and 10-12, 339 Williamstown Road), and a 12 storey approval in an area proposed to have a maximum height of 6 storeys (101 Salmon Street). Further, the

proposed maximum heights in these areas are not justified by amenity reasons.

- [46] Therefore, it appears that the densities and building heights in Wirraway have been reduced to fit within the overall population targets, rather than because these are the maximum scale of development that could result in good amenity outcomes. As discussed at length in my overarching evidence, I do not consider that the population targets provide a robust justification for the density or scale of development in the Amendment land.
- [47] Therefore, I consider that the proposed maximum heights in these areas should be reviewed to determine whether they optimise the provision of growth within the proposed mid-rise built form types. Presumably this could form part of the proposed detailed precinct planning exercise.
- [48] Notably, although the same broad character outcome is sought in Wirraway, it has a maximum height only $\frac{3}{4}$ of that in the other low-mid rise areas (6 storeys rather than 8). Although I am not an expert in the structural engineering of foundations in areas with these ground conditions, my understanding is that the proposed maximum height of 6 storeys is not viable. While low buildings utilising lightweight construction (up to approximately 3 or potentially 4 storeys) can be built on a raft slab with screw piles, anything taller needs deep piles which require at least 8 storeys to generate the same return as a low-rise, lightweight building, and more to make it worthwhile. This explains the lack of applications for development between a height of 3 and 8 storeys.
- [49] I note that Mr McPherson recommends increasing the maximum height from 6 storeys to 8 storeys. He also recommends increasing the 4-storey discretionary maximum height to 6 storeys. However, given the geotechnical challenges, and his and my recommendation in relation to heights alongside Williamstown Road (see below), I consider that it would be more appropriate to increase them to 8 or more storeys.
- [50] I assume that the lower proposed maximum height in Wirraway is because of a desire for 'family-friendly housing', as indicated in the Urban Design Strategy (at page 88): "*The primary focus of Wirraway is to support family-friendly housing.*" I analyse the notion of 'family-friendly housing' in my overarching evidence. I conclude that the ambition for family-friendly housing need not preclude taller buildings in the corners of blocks, because the family-friendly housing can be provided in low-mid rise buildings overlooking a central open space, with other forms of housing in the taller buildings accessed separately. The proposed local policy only requires 30% of the dwellings in developments of 300 dwellings or more in

Wirraway (which Ms Hodyl recommends reducing to 100) to have 3 bedrooms, leaving the majority as potentially ‘non-family friendly’ and able to be accommodated in taller buildings.

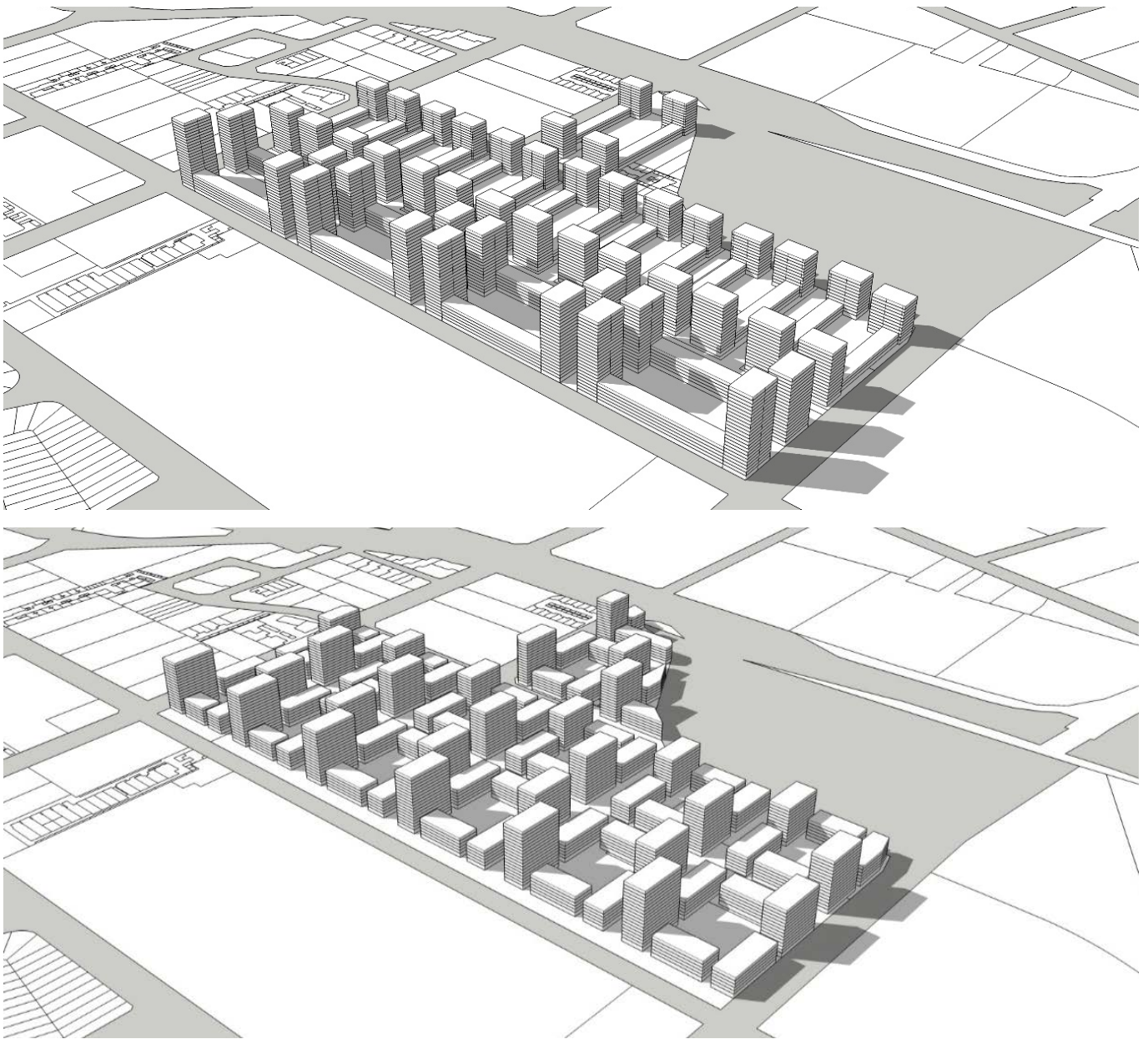
- [51] As noted in my overarching evidence, it is entirely possible to conceive of built form character types that would be distinct from the podium-tower areas and create high quality places while also providing for more growth than what is proposed. For example, DLA’s investigation into alternative higher-density built form models (see Appendix E of my overarching evidence) demonstrates that the ‘Barcelona’ model delivers a significantly increased density (up to an FAR of approximately 3.6:1—almost twice that proposed in the non-core area of Wirraway) within a height of 7 storeys, while providing ‘family-friendly housing’ (see below).



Alternative higher-density built form model applied to 437-477 Plummer Street: Barcelona model

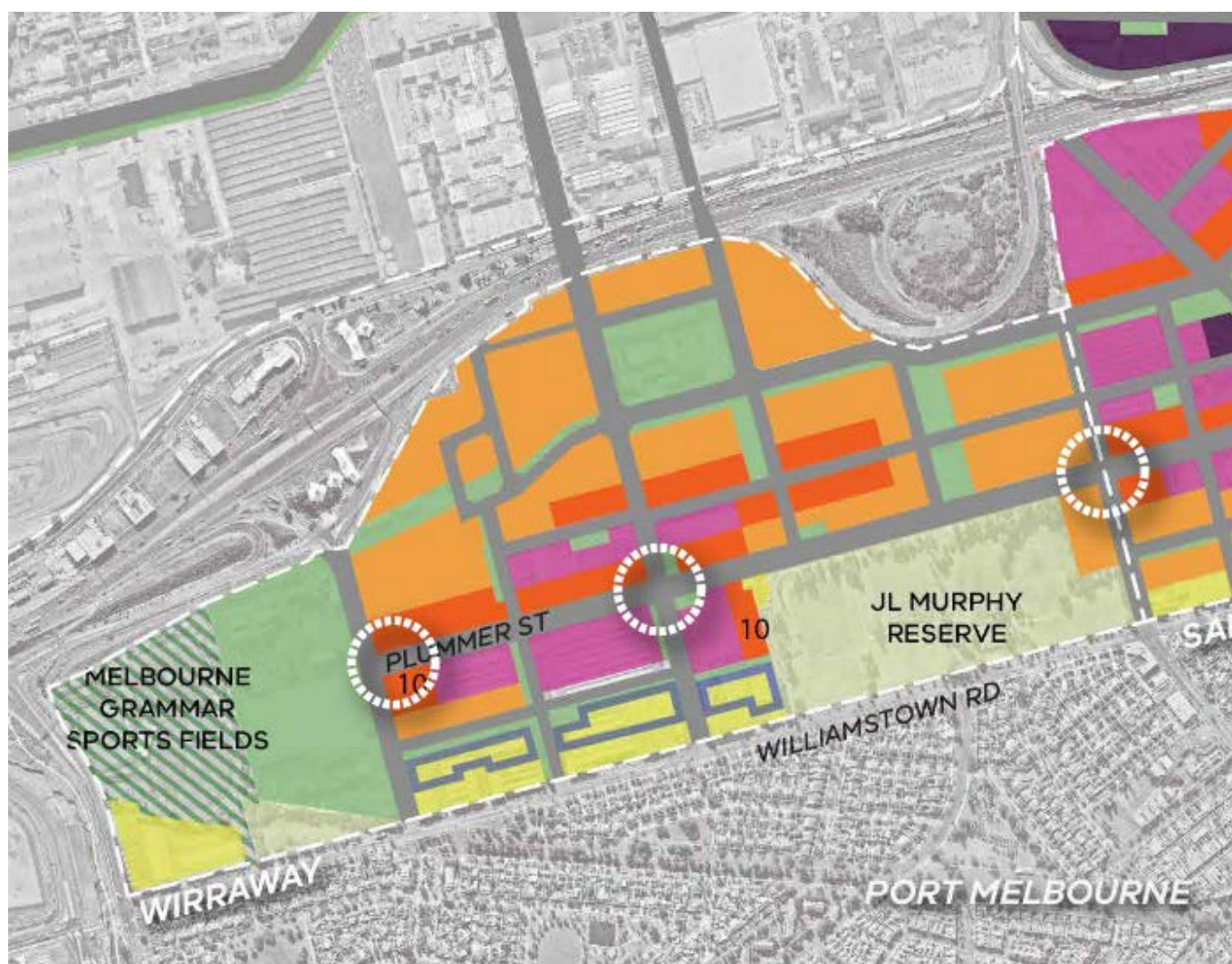
- [52] Other built form models that deliver this level of density without relying on buildings between 3 and 8 storeys high rely on some towers up to approximately 18 storeys high on street corners, separated by low-medium rise street wall forms (see overleaf). These models deliver a more diverse built form environment, while maintaining excellent public and private amenity (including generous central open spaces within each block). Density controls may present a useful mechanism for managing the overall form of this type of development to ensure that the heights do not encourage *conventional* podium-tower development.

[53] I note that Mr McPherson recommends reducing the 24-storey maximum height in the Wirraway core to 14-16 storeys, given the “*vision for a more mid-rise, intimate, residential and arts-focussed precinct*” (para 239). Without further testing, I cannot confirm the appropriateness of this recommendation. However, I note that it is generally consistent with the higher-density models illustrated below.



Alternative higher-density built form models applied to 437-477 Plummer Street: Vancouver model (top) and Hybrid model (bottom)

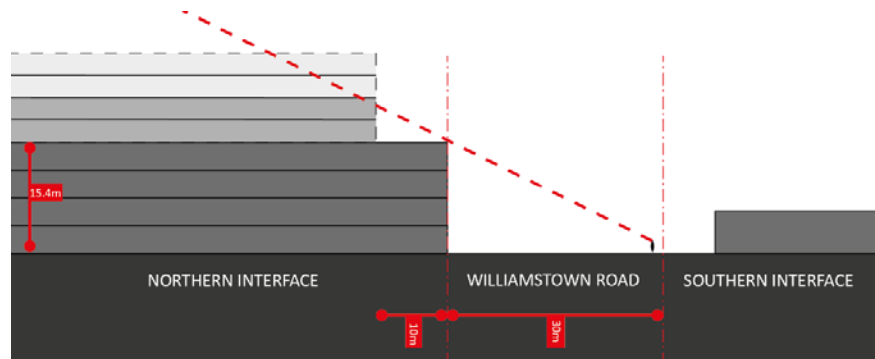
- [54] The proposed maximum heights along the north side of Plummer Street are driven by the desire to avoid any shadowing of the southern footpath at the September equinox. While I support this objective in general, I consider that it should be balanced with other aspirations.
- [55] For example, as noted in my overarching evidence, I consider that provision should be made for taller forms at key locations to reinforce the urban structure, as shown below:



Potential locations for landmark buildings and civic uses

- [56] Provided that taller forms are relatively slender and well separated so that their shadow only occupies a modest proportion of the opposite footpath, I consider that this could contribute to an optimum outcome.

- [57] In summary, I support the proposal for mid-rise, higher-density built form in the non-core area of Wirraway. However, I recommend that the proposed maximum heights in this area be reviewed to enable viable development types that can deliver greater density, while still delivering high quality public and private amenity, and ‘family-friendly’ housing. I do not consider that this needs to be limited to 8 storeys in height.
- [58] In my overarching evidence, I analyse the southern edge of Wirraway, along Williamstown Road, and recommend that the mandatory maximum 4-storey building height be replaced with a discretionary maximum 4-storey street wall height and a discretionary minimum 10m setback requirement above the street wall (with the ‘underlying’ maximum height to the north applied beyond that). I note that Mr McPherson has recommended the same change in his evidence, which is on behalf of the City of Port Phillip.
- [59] This is illustrated below.



Recommended section through southern edge on Williamstown Road

- [60] I discuss the requirement for the non-core areas of Wirraway to have a maximum site coverage of 70%, with the remaining 30% to be used for ground level outdoor or communal open space or landscaping, in my overarching evidence. I accept that communal open space is desirable to support family-friendly housing. However, there is no reason why communal open space and landscaping cannot be provided on the roof of lower levels containing car parking or commercial floor area.
- [61] Therefore, I recommend that the site coverage control be replaced with a requirement for any development incorporating dwellings to provide communal open space at any level up to the height of the street wall. Further, I recommend that more work be undertaken to determine an appropriate level of provision.

5.0 Conclusion and recommendations

- [62] I have provided my opinion about the overall approach underpinning this Amendment, and general built form provisions, in my overarching evidence.
- [63] I support the proposed urban structure for Wirraway, including the metro and tram routes, street network, new pedestrian/ cycle bridges, and community hubs. However, I query the number of jobs proposed in Wirraway in the absence of certainty about a metro station.
- [64] However, I note that the mechanism for delivering new roads is flawed in relation to 359-391 Plummer Street, where the whole of the non-core parts of those properties is proposed to be required for new roads, resulting in the associated floor area being 'lost'. Therefore, I recommend that the whole of these properties be included within the core area, to ensure that the requirement of land for new roads does not result in less floor area entitlement.
- [65] A new elevated freight route is proposed along the northern edge of Wirraway. This could severely compromise the amenity and development potential of adjoining land. Therefore, its exact nature and alignment needs to be confirmed to provide certainty around planning for this part of the precinct.
- [66] I support the proposed provision of open space in Wirraway in principle. I note the changes recommended by Ms Thompson, but query whether the protection of existing trees should determine the distribution of open space in a renewal area. I consider that the ultimate location, size and shape of open spaces should be subject to more detailed planning involving landowners, to ensure that it complements development.
- [67] I support the principle of medium-rise development in the majority of this precinct, to create a character that is distinct from the podium-tower format development in other precincts. However, I consider that the proposed densities and maximum building heights in Wirraway are unnecessarily low, noting that they ignore the proposed public transport accessibility, existing approvals and geotechnical conditions.
- [68] My analysis of a number of individual sites (see Appendix A) indicates that there is a substantial discrepancy between the proposed maximum FARs and development potential within the proposed building envelopes. Substantially greater density could be achieved without exceeding the preferred maximum heights or compromising the other built form requirements, including those to do with overshadowing. This confirms that the maximum FARs represent a substantial underdevelopment of the land.

- [69] Therefore, I consider that more work needs to be done to determine the appropriate density and built form model which optimises the provision of growth within a mid-rise built form, while ensuring a high quality environment and family-friendly housing.
- [70] In any event, I recommend that the mandatory maximum 4-storey building height along Williamstown Road be replaced with discretionary maximum 4-storey street wall height and a discretionary minimum 10m setback requirement above the street wall (with the 'underlying' maximum height to the north applied beyond that). I also recommend that the site coverage control that applies to the non-core area of Wirraway be replaced with a requirement for any development incorporating dwellings to provide communal open space at any level up to the height of the street wall. Further, I recommend that more work be undertaken to determine an appropriate level of provision.
- [71] I support the preparation of precinct plans to resolve matters to do with density, built form and parks. Until these precinct plans have been prepared, I consider that it is premature to commit to maximum heights, densities and park locations.
- [72] In summary, my recommendations for Wirraway are below:

1. REVIEW THE PROPOSED NUMBER OF JOBS IN THE WIRRAWAY CORE, BASED ON A FIRMER POSITION IN RELATION TO THE PROVISION OF A METRO STATION.
2. CONFIRM THE NATURE AND ALIGNMENT OF THE PROPOSED ELEVATED FREIGHT ROUTE TO PROVIDE CERTAINTY FOR THE PLANNING OF THAT PART OF WIRRAWAY.
3. INCREASE THE MAXIMUM HEIGHT OF 6 STOREYS TO 8 OR MORE STOREYS.
4. REPLACE THE MANDATORY 4-STOREY HEIGHT LIMIT ON WILLIAMSTOWN ROAD WITH A DISCRETIONARY MAXIMUM 4-STOREY STREET WALL HEIGHT, AND A DISCRETIONARY MINIMUM 10M SETBACK ABOVE.
5. PREPARE DETAILED PRECINCT PLANS, IN CONJUNCTION WITH LANDOWNERS, TO RESOLVE THE OPTIMUM BUILT FORM MODEL, DENSITY AND OPEN SPACE PATTERN FOR EACH PART OF WIRRAWAY.
6. REPLACE THE SITE COVERAGE CONTROL IN THE NON-CORE AREA OF WIRRAWAY WITH A REQUIREMENT FOR ANY DEVELOPMENT INCORPORATING DWELLINGS TO PROVIDE COMMUNAL OPEN SPACE AT ANY LEVEL UP TO THE HEIGHT OF THE STREET WALL.
7. INCLUDE THE WHOLE OF 359-391 PLUMMER STREET WITHIN THE CORE AREA.

Appendix A: Analysis of Individual Sites



Location of individual sites assessed with submitter number

Submitter 131.5 332 Plummer Street and 21 Smith Street, Port Melbourne

Submitter 150 541 Graham Street, Port Melbourne

Submitter 217.1 320 Plummer Street, Port Melbourne

Submitter 217.2 365 -391 Plummer Street, Port Melbourne

Submitter 217.3 17 Rocklea Drive, Port Melbourne

Submitter 131.5: 332 Plummer Street and 21 Smith Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions (2 lots): 127m x 101m = 12,827sqm

Core area: 8097sqm (332 Plummer St)

Non-core area: 4730sqm (21 Smith St)

Three street interfaces:

North: Plummer Street (30m wide)

East: Smith Street (30m wide)

South: Tarver Street (20m wide)

Existing conditions: The consolidated site is currently occupied by an industrial warehouse structure and associated surface car parking, with crossovers from all 3 frontages.

Street trees planted along street frontages.

Relevant site interfaces

West: 320 Plummer Street occupied by large industrial warehouses and surface car parking, with a 12-15 storey development under construction.

Development potential

No current planning applications for this site

Key AmGC81 built form considerations

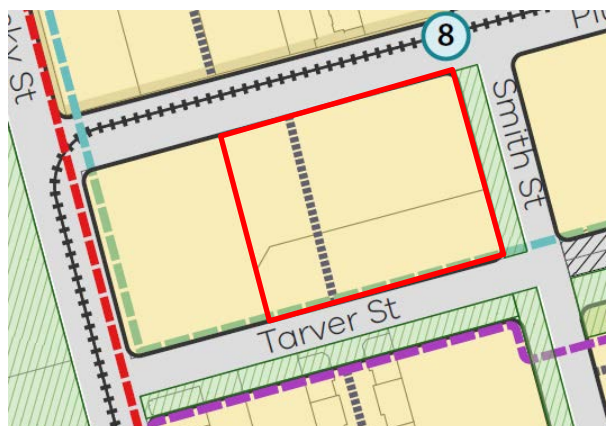
SITE AREA (SQM)	8,097	4,730
PUBLIC REALM AREA (SQM) POS & ROADS	380 (5%)	223 (5%)
DEVELOPABLE SITE AREA (SQM)	7,717	4,507
CORE/ NON-CORE	Core	Non-core
MAXIMUM DWELLING FAR	4.1:1	2.1:1
MAXIMUM DWELLING GFA (SQM)	33,198	9,933
MINIMUM NON-DWELLING FAR	1.9:1	N/A
MINIMUM NON-DWELLING GFA (SQM)	15,384	N/A
TOTAL GFA (SQM)	48,582	9,933
PREFERRED MAXIMUM HEIGHT	80.6 (24 storeys)	23m (6 storeys)

Other AmGC81 requirements

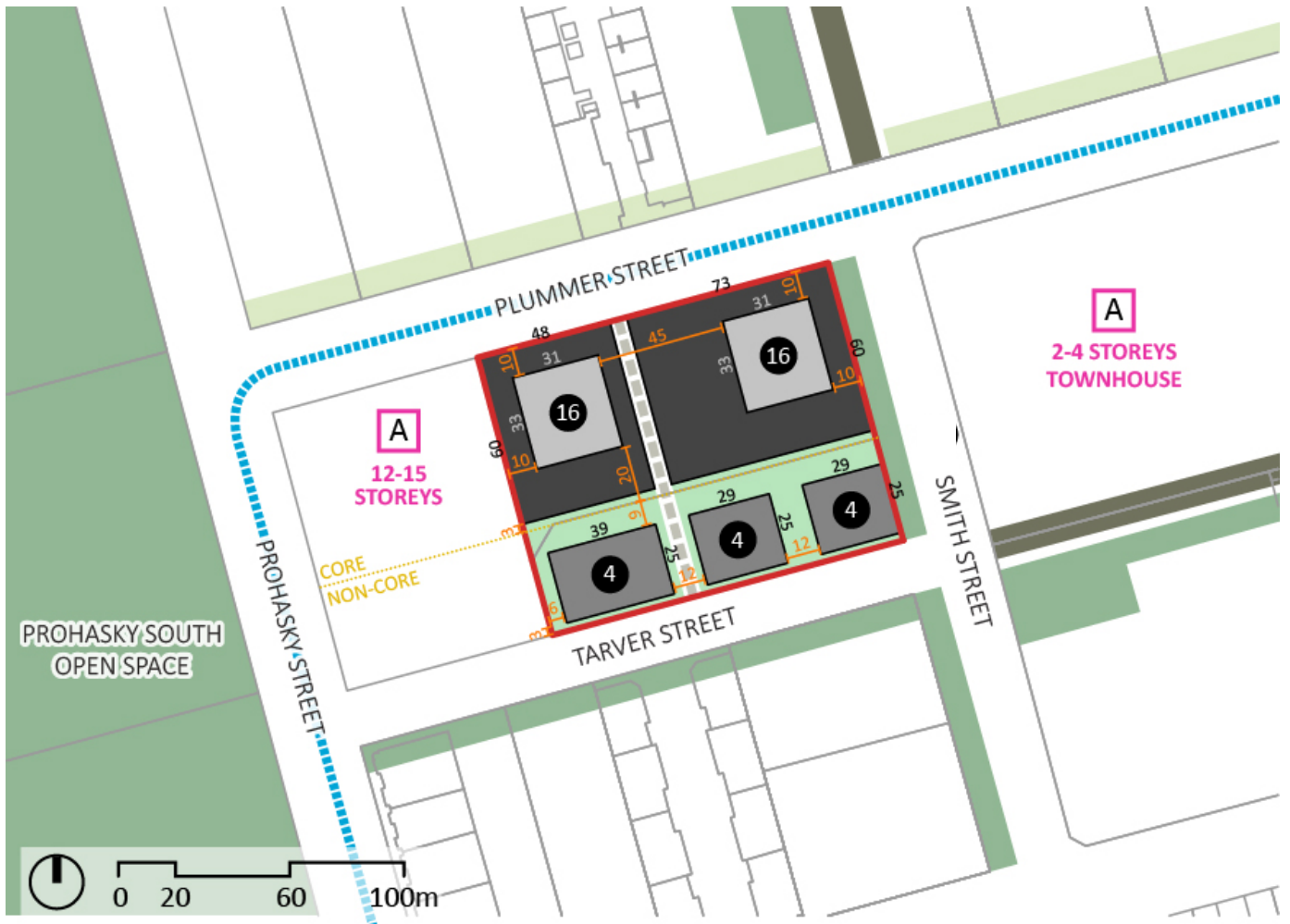
New linear open space along eastern edge of site.

Active frontages: Primary to Plummer and Secondary to Smith Street.

Site coverage: Maximum 70% in the non-core (southern) part of the site, with the remaining 30% used as communal open space or landscaping.



Development consequences



- | | | | | | |
|--|-------------------------|----|-----------------------------|--|-----------------------------------|
| | 3 STOREY PODIUM | | PROPOSED 22M ROAD | | PROPOSED TRAM ROUTE |
| | 4 STOREY BUILT FORM | | PROPOSED LANEWAYS | | HIGH FUTURE DEVELOPMENT POTENTIAL |
| | BUILT FORM ABOVE PODIUM | | NUMBER OF STOREYS | | APPROVED DEVELOPMENT |
| | NEW PUBLIC OPEN SPACE | 42 | BUILDING DIMENSION (METRES) | | |
| | ON-SITE OPEN SPACE | 22 | | | |
| | | | SETBACK (METRES) | | |

Discussion

The site can accommodate the maximum dwelling FAR and minimum non-dwelling FAR within the building envelope controls for both the core and non-core parts of the site. (The core and non-core areas have been considered separately in the application of their FARs.)

The **core part** of the site can be developed by adopting a podium and tower form within the developable site area to a height of 16 storeys. The non-dwelling GFA and dwelling car park GFA, along with residential sleeving of apartments, can be accommodated in two 3-storey podiums. The core dwelling GFA (minus car parking) can be principally located in two 13-storey towers.

A range of building forms could be adopted, without exceeding the FAR or height limit. The maximum FAR prevents both towers from reaching the potential height of 24 storeys (although one of them could reach that height).

The **non-core part** of the site can be developed for three 4-storey apartment buildings in a landscaped setting, which provides the 30% communal open space/ landscaped area.

Again, a range of building forms could be adopted, without exceeding the FAR or 6 storey preferred maximum height, and the maximum FAR prevents all buildings from reaching the potential height of 6 storeys (although one or possibly two of them could reach that height).

The secondary active frontage in the non-core part of the site may require commercial uses to be included and built to the boundary with the new linear park.

The development potential is significantly less than under the current interim controls, which permit a building of up to 12 storeys.

There is enough flexibility in the potential built form to enable it to respond to the approved development under construction to the west.

Below is a comparison between the capacity in accordance with density controls (as indicated in the development consequence diagram) and then in accordance with built form controls (by adding additional height to the building or tower.

This demonstrates that there is additional capacity within the built form for this site in the core and non-core areas.

CORE	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	24898	71088	46190
No. dwellings	258	552	294
Non dwelling GFA (sqm)	15384	15384.3	0
Total GFA (sqm)	48571	86472.3	37901

NON -CORE	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	9933	17136	7203
No. dwellings	77	133	56
Non dwelling GFA (sqm)	0	0	0
Total GFA (sqm)	9933	17136	7203

Submitter 150: 541 Graham Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 76m x 186m = 14,025m² area

One street interface:

East: Graham Street (30m to 36m wide on section abutting site)

Existing conditions: Large industrial warehouse buildings and a large advertising sign structure.

Small street trees planted along street frontage.

Existing crossovers: 3 x Graham Street

Relevant site interfaces

North: Small vegetated area leading to West Gate Freeway on-ramp structure

South: 525 Graham Street occupied by a industrial warehouse building

West: 477 Plummer Street occupied by a large industrial warehouse

Development potential

Submitted Planning Permit Application (PA1700321) comprising:

2 x 3 storey podiums with 4 tower reaching 15 to 18 storeys

680 dwellings/ 2061sqm retail/ 368 car spaces

Called in by Minister.

Key AmGC81 built form considerations

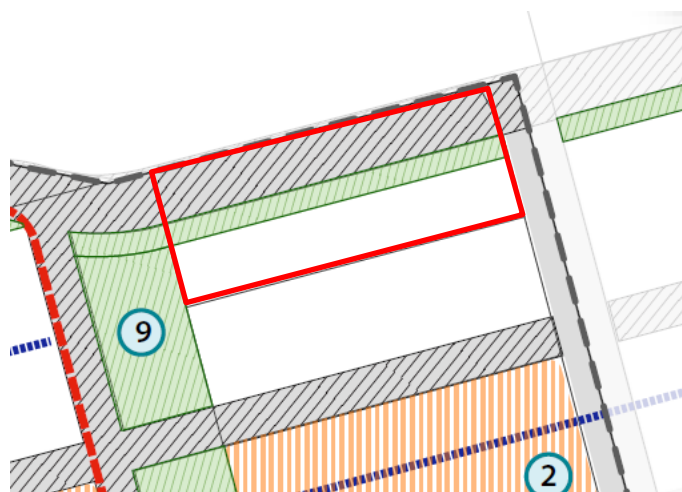
DEVELOPABLE SITE AREA (SQM)	14,025
PUBLIC REALM AREA (SQM) POS & ROADS	8,483 (60%)
DEVELOPABLE SITE AREA (SQM)	5,542
CORE/ NON-CORE	Non-core
MAXIMUM DWELLING FAR	2.1:1
MAXIMUM DWELLING GFA (SQM)	29,453
PREFERRED MAXIMUM HEIGHT	23 (6 storeys)

Other AmGC81 requirements

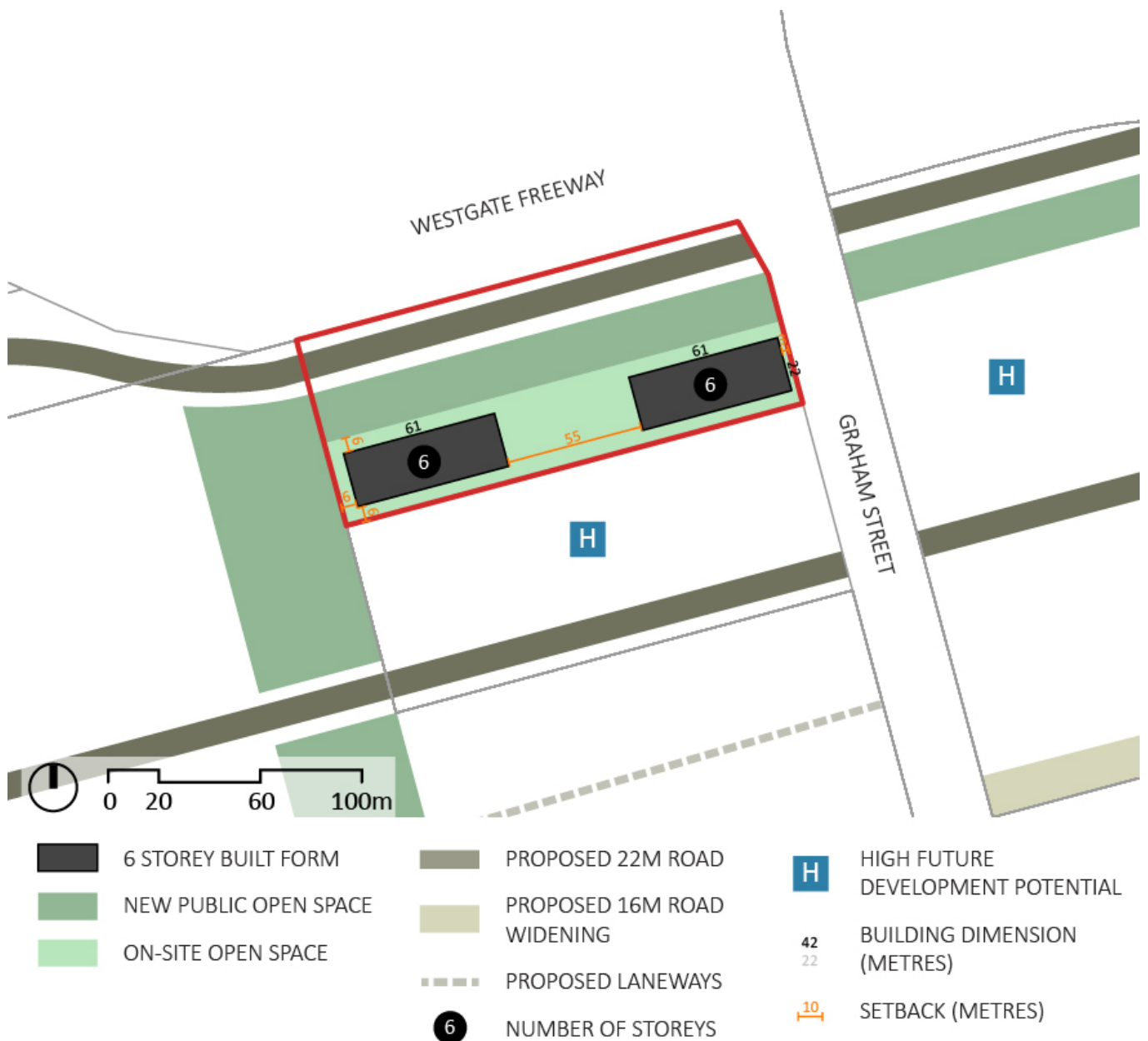
New 22m wide road along the northern boundary of the site, with no crossovers permitted to it.

New public open space proposed along the southern edge of proposed new road.

New public park to the west with no additional shadow allowed between 11:30am to 2pm on the September equinox.



Development consequences



Discussion

The site can be developed for two 6-storey apartment buildings in a landscaped setting, providing 229 dwellings, which achieves the maximum dwelling GFA.

The potential development of the site is severely limited due to 60% of it being required for public realm and the shadow requirement to the west. The fact that the maximum dwelling GFA under the FAR can be achieved within the preferred maximum height on only 40% of the site, is a clear indication that a maximum FAR of only 2.1:1 is an underdevelopment of land in this precinct.

A range of building forms could be adopted, without exceeding the FAR or 6 storey preferred height limit.

There is theoretical capacity to put additional 6 storey building mass on the site which could potentially deliver up to 4620sqm of GFA and 36 additional dwellings.

	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Total Dwelling GFA (sqm)	29,453	34,073	4,620
No. dwellings	229	265	36

The development potential is significantly less than the current interim controls which permit a building of up to 18 storeys on the site and as proposed in the current planning permit application, see table below.

	CURRENT PROPOSAL	AM GC81 POTENTIAL	DIFFERENCE
Dwelling FAR	13.6:1	2.1:1	11.5:1
Dwelling GFA	190,158	29,453	160,705
Dwellings No.	680	229	451
Dwelling density per HA	484.00	163	321
Non-dwelling GFA	2,061	-	2,061
Height- storeys	18	11	7

Submitter 217.1: 320 Plummer Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 100m x 75m = 7,475m² area, comprising:

Core area: 4,675m²

Non-core: 2,800m²

Three street frontages:

North: Plummer Street (30m wide)

West: Prohasky Street (30m wide)

South: Tarver Street (20m wide)

Existing conditions: two adjoining warehouses and surface car parking;
several large trees on site

Street trees on surrounding nature strips

Existing crossovers from all street frontages

Relevant site interfaces

East: 332 Plummer Street, occupied by industrial warehouse buildings
(approx. 2 storeys)

Development potential

Approved Planning Permit (MPA14/0005) comprising:

3 residential towers (12-15 storeys) 497 dwellings/ 962sqm retail/ 494 car
spaces

Issued August 2015 by VCAT, amended October 2016 by VCAT

Key AmGC81 built form considerations

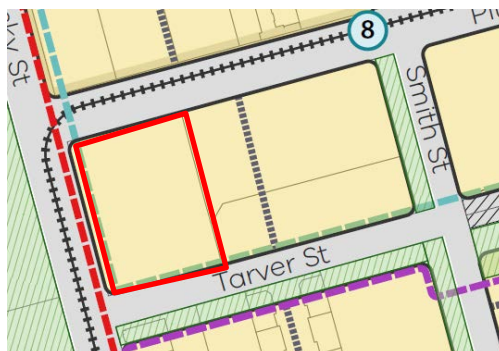
SITE AREA (SQM)	4,675	2,800
PUBLIC REALM AREA (SQM) POS & ROADS	(0%)	(0%)
DEVELOPABLE SITE AREA (SQM)	4,675	2,800
CORE/ NON-CORE	Core	Non-core
MAXIMUM DWELLING FAR	4.1:1	2.1:1
MAXIMUM DWELLING GFA (SQM)	19,168	5,880
MINIMUM NON-DWELLING FAR	1.9:1	N/A
MINIMUM NON-DWELLING GFA (SQM)	8,883	N/A
TOTAL GFA (SQM)	28,050	5,880
PREFERRED MAXIMUM HEIGHT	42.2m-80.6m (12-24 storeys)	23m (6 storeys)

Other AmGC81 requirements

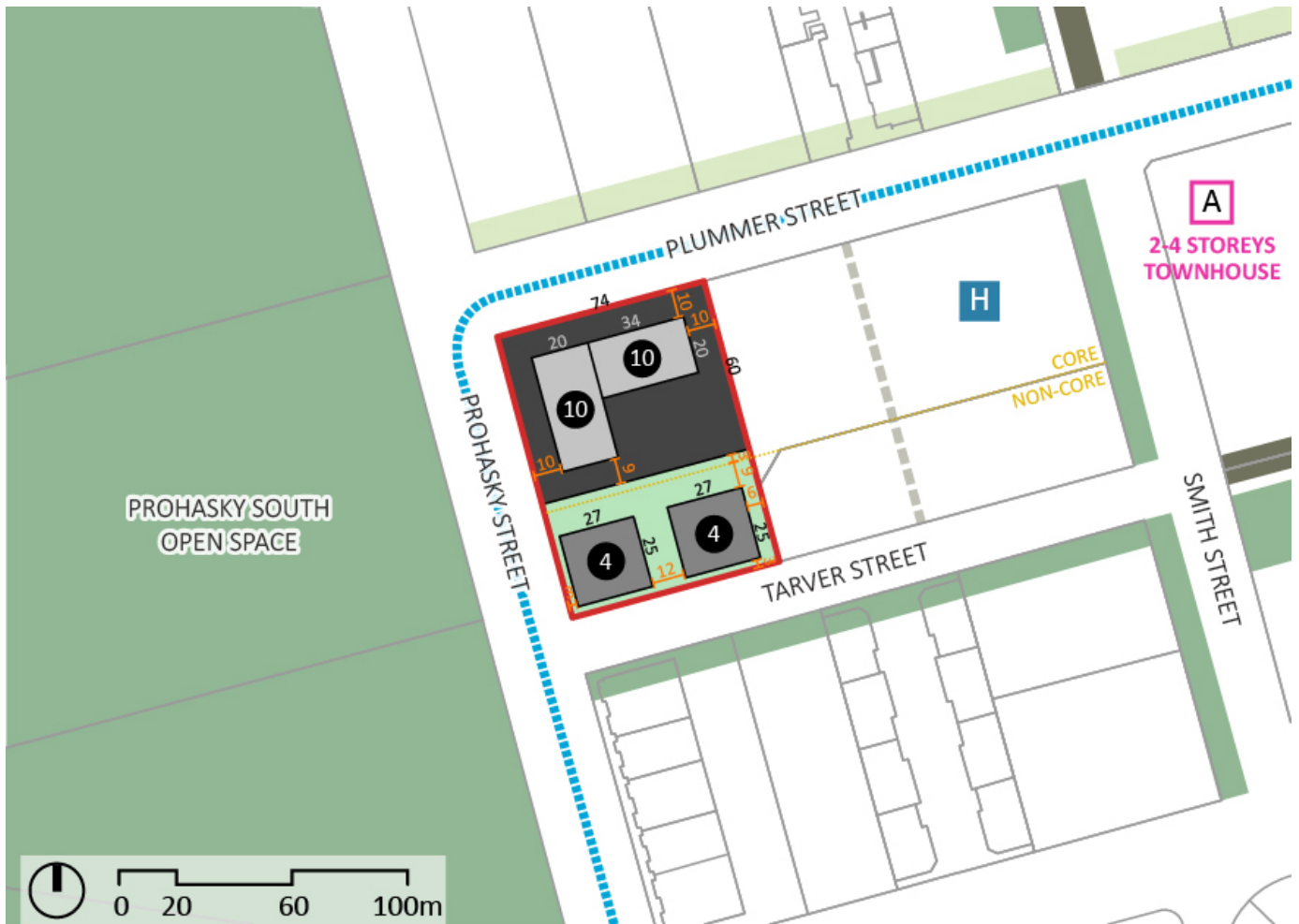
No additional shadow can be cast on the District Park on to the west between 11:00am and 2:00pm at the winter equinox














No crossovers permitted on Plummer Street

Primary active frontage on Plummer Street



Development consequences



- | | | | | | |
|---|------------------------------|---|---------------------|---|--------------------------------------|
|  | 4 STOREY PODIUM / BUILT FORM |  | PROPOSED 22M ROAD |  | HIGH FUTURE DEVELOPMENT POTENTIAL |
|  | BUILT FORM ABOVE PODIUM |  | PROPOSED LANEWAYS |  | 6 NUMBER OF STOREYS |
|  | NEW PUBLIC OPEN SPACE |  | PROPOSED TRAM ROUTE |  | 42
22 BUILDING DIMENSION (METRES) |
|  | 10M LANDSCAPE SETBACK |  | ON-SITE OPEN SPACE |  | 10 SETBACK (METRES) |
| | | | |  | A APPROVED DEVELOPMENT |

Discussion

The site can accommodate the maximum dwelling FAR and minimum non-dwelling FAR within the building envelope controls for both the core and non-core parts of the site. (The core and non-core areas have been considered separately in the application of the FAR.)

The **core part** of the site can be developed by adopting a large podium and L shaped tower form to a height of 10 storeys. The non-dwelling GFA and dwelling car park GFA, along with residential sleeving of apartments, can be accommodated in a 3-storey podium. The core dwelling GFA (minus car parking) can be principally located in the 7 storey towers above.

A range of building forms could be adopted, without exceeding the FAR or height limit. The FAR limit prevents the towers from reaching the maximum height of 24 storeys.

The **non-core part** of the site can be developed for two 4-storey apartment buildings in a landscaped setting. Again, a range of building forms could be adopted, and the maximum FAR prevents development from reaching the 6-storey preferred height limit.

In summary, there is a substantial discrepancy between the development potential under the maximum FAR and within the building envelope controls. This indicates that the FAR represents a substantial underdevelopment of the land.

The development potential under Amendment GC81 is also significantly less than the development currently under construction on the site in terms of both density and height (12-15 Storeys), which complies with the current interim controls. However, the approved development will cause some overshadowing of the park to the west during the winter solstice.

The indicative development above has been carefully modelled to prevent winter solstice shadow to the proposed open space to the west.

	CURRENT PROPOSAL	AM GC81 POTENTIAL	DIFFERENCE
Dwelling FAR	8:.6:1	4.1:1 & 2.1:1	4.5:1
Dwelling GFA	135.865	25,048	63,584
Dwellings No.	497	192	305
Dwelling density per HA	15	39	-24
Non-dwelling GFA	962	8,883	+7,921
Height-storeys	15	10	5

CORE	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	19,168	21,852 *	2,684
No. dwellings	149	170	21
Non dwelling GFA (sqm)	8,883	8,883	-
Total GFA (sqm)	28,050	30,734	2,684

*Only to 12 storeys (there is potential to reconfigure tower layout to reach 24 storeys for part of the site)

NON -CORE	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	5,368	8,564	3,196
No. dwellings	42	67	25

Submitter 217.2: 365-391 Plummer Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 161m x 120m = 19,332sqm area comprising:

Core area: 12,822sqm

Non-core area: 3,529sqm

Street interfaces:

South: Plummer Street (30m wide)

East: Salmon Street (30m wide)

Existing conditions: Three lots with industrial warehouse buildings and associated surface car parking

Irregular street tree plantings around boundaries.

Existing crossovers: 2 x Plummer Street and 5 x Salmon Street

Relevant site interfaces

West: 359 Plummer Street, occupied by industrial warehouses

Development potential

Submitted Planning Permit Application (PA1700209) comprising:

3 residential towers (12-18 storeys)

1,188 dwellings/ 2,113m² retail/ 985 car spaces

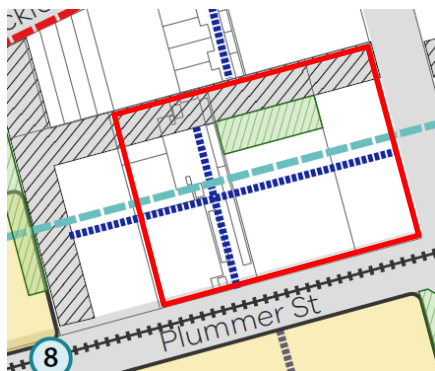
Approx. 1720m² of land excised for roads.

VCAT Appeal called in by Minister.

Key AmGC81 built form considerations

SITE AREA (SQM)	15,822	3,529
PUBLIC REALM AREA (SQM) POS & ROADS	2,892 (18%)	3,529 (100%)
DEVELOPABLE SITE AREA (SQM)	12,930	0
CORE/NON-CORE	Core	Non-core
MAXIMUM DWELLING FAR	4.1:1	2.1:1
MAXIMUM DWELLING GFA (SQM)	72,281	7,411
MINIMUM NON-DWELLING FAR	1.9:1	N/A
MINIMUM NON-DWELLING GFA (SQM)	30,062	N/A
TOTAL GFA (SQM)	94,932	7,411
PREFERRED MAXIMUM HEIGHT	42.2m-80.6m (12-24 storeys)	23m (6 storeys)

Other AmGC81 requirements



New 22m road along the north boundary (occupying the whole of the non-core part of the site, which has an FAR associated with it)

6m road widening along the southern boundary

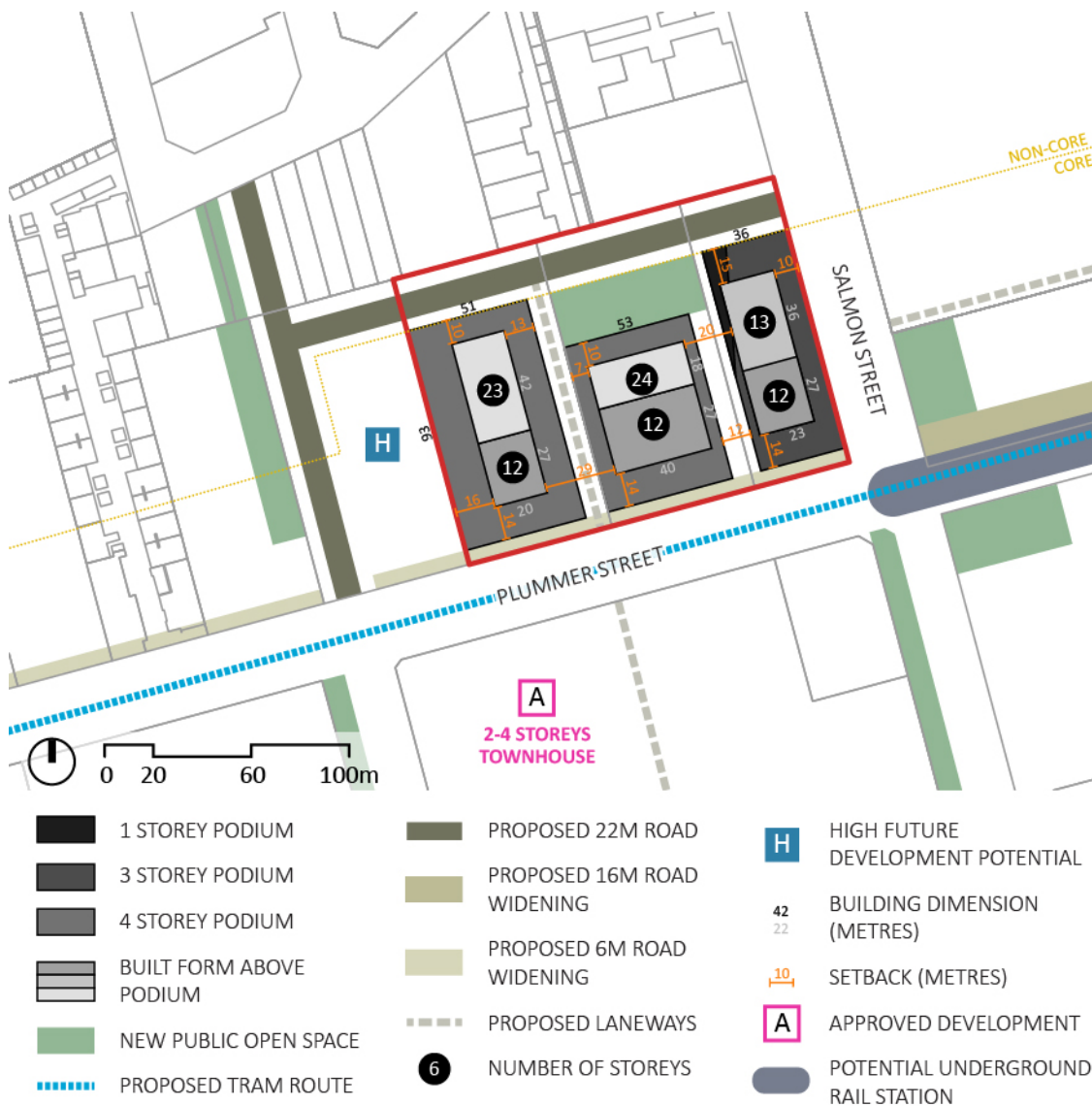
2 indicative laneways in the draft Framework, but not in the proposed CCZ schedule

Active frontages: Primary on Plummer Street and Salmon Street, and secondary on proposed new road to the north of the site.

New pocket park on the site, which may not be shadowed at 10am-2pm on the September equinox

No overshadowing to the south side of Plummer Street at 11am-2pm on the September equinox

Development consequences



Discussion

The whole of the **non-core part** of the site is occupied by a proposed new road. This means that the development potential of that part of the site (notionally 3530sqm) is simply lost. It is not clear how the land for the road is proposed to be acquired, since there is no incentive to develop that part of the site, and no way for the 'lost' floor area to be transferred to the core part of the site.

The site can accommodate the maximum dwelling FAR and minimum non-dwelling FAR within the height and mandatory built form controls on the **core part** of the site, provided the indicative east-west lane in the draft Framework is not required (in accordance with Ms Hodyl's evidence).

The core part of the site can be developed for three podium and tower forms within the developable site area, with 4-storey podiums and 24 storey towers. The non-dwelling GFA and dwelling car park GFA, along with residential sleeving of apartments, can be accommodated in 4-storey podiums. The core dwelling GFA (minus car parking) can be principally located in towers.

A range of building forms could be adopted without exceeding the FAR or height limit, although the shadow considerations constrain these to a degree.

In summary, there is a substantial discrepancy between the development potential under the maximum FAR and within the building envelope controls. This indicates that the FAR represents a underdevelopment of the land.

The development potential under Amendment GC81 is also significantly less than the currently planning application for the site in terms of both density, which complies with the current interim controls. I understand that the proposed development will not cause overshadowing of Plummer Street during the September equinox.

CORE	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	63,578	73,598*	10,020
No. dwellings	494	572	78
Non dwelling GFA (sqm)	38,769	38,769	-
Total GFA (sqm)	102,343	112,367	10,024

*additional 12storeys of height to the eastern most building

Submitter 217.3: 17 Rocklea Drive, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 60m x 52m = 3170m² area

L-shaped site

Street interfaces:

East and South: Rocklea Drive (20m wide)

Existing conditions: Site currently occupied by a 2-storey building

Small street trees planted along street frontages

Existing crossovers: 2 x Rocklea Drive

Relevant site interfaces

North: 19 Rocklea Drive, occupied by a double storey building and attached warehouse

West: 11 Rocklea Drive, occupied by an industrial warehouse building

Development potential

Submitted Planning Permit Application (PA1700210) comprising:

1 tower (18 storeys)

224 dwellings/ 200m² retail/ 185 car spaces

Appeal lodged at VCAT – called in.

Key AmGC81 built form considerations

SITE AREA (SQM)	3,170
PUBLIC REALM AREA (SQM) POS & ROADS	(0%)
DEVELOPABLE SITE AREA (SQM)	3,170
CORE/ NON-CORE	Non-core
MAXIMUM DWELLING FAR	2.1:1
MAXIMUM DWELLING GFA (SQM)	6,657
PREFERRED MAXIMUM HEIGHT	23 (6 storeys)

Other AmGC81 requirements

Proposed bridge to the west of the site providing a link to the employment precinct to the north.

Proposed new elevated freight route along the northern edge of the site.



Development consequences



Discussion

The site can be developed for 3 and 4 storey apartment buildings in a landscaped setting, which provides the 30% communal open space/ landscaped area. However, a range of building forms could be adopted, without exceeding the FAR or 6 storey preferred height limit.

There is a substantial discrepancy between the development potential under the maximum FAR and within the building envelope controls. This indicates that the FAR represents a substantial underdevelopment of the land.

The development potential is also significantly less than the current interim controls which permit a building of up to 18 storeys for the entire site, and significantly less than the currently proposed development.

The elevated freight corridor could severely compromise the amenity and development potential for this site. Therefore, its exact nature and alignment needs to be confirmed to provide certainty around planning for this part of the precinct.

	CURRENT PROPOSAL	AM GC81 POTENTIAL	DIFFERENCE
Dwelling FAR	5.6:1	2.1:1	3.5:1
Dwelling GFA	17,631	6,657	-10,974
Dwellings No.	224	52	172
Dwelling density per HA	706.62	163	543
Non dwelling GFA	200	-	200
Height- storeys	18	4	14

	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	6,657	7,970*	1,313
No. dwellings	52	62	10

*To 6 storeys

Appendix B: Site Assessment Assumptions

The following assumptions have been made in assessing the development potential of each site (see Appendix A).

Public realm

- New streets and parks: As per proposed CCZ schedules.
- Laneways and minor roads: As per draft Fishermans Bend Framework, with their alignments adjusted to suit the development of the site. All minor streets and laneways shown in the Framework but not the CCZ have been modelled at a width of 6m, except where considered necessary at a width of 12m.

Built form—general

- Building height and building setback requirements: As per the Panel versions of the CCZ and DDOs (documents 66), or ResCode for buildings up to 4 storeys high.
- Overshadowing requirements: In accordance with DDO Map 3 Overshadowing requirements and Table 1 Public open space hierarchy and overshadowing requirements, except in Montague, where the following recommendation of Ms Hodyl has been adopted: Revise the current overshadowing controls for neighbourhood parks in the Amendment for Montague from 'no additional overshadowing' to 'no additional overshadowing above the street wall shadow'. This only affects:
 - The new park fronting Thistlethwaite Street
 - Both new parks fronting Gladstone Street
 - The new park fronting Buckhurst Street
- Park interfaces: Buildings setbacks dependent on shadowing requirements as per the DDO, or built to the boundary where no shadow requirement specified.
- Floor to floor height: Ground floor 4m, upper podium floors 3.8m (as per DDO adaptable building requirements), tower levels 3.1m (assumes residential).

Podiums

- Use: All non-dwelling GFA, all car parking (associated with both dwelling and non-dwelling use—i.e. no basement levels assumed) and dwellings to 'sleeve' parking.
- Site coverage: 100% in all core areas; 70% in Wirraway and Sandridge non-core areas except where the gross developable site area is less than 1200sqm.
- Setbacks: 0m in core areas and on all streets in non-core areas requiring an active frontage; 3m elsewhere to accommodate ground floor private open space and/or landscaping.
- Minimum podium height: Determined by calculating non-dwelling and all car parking GFA, divided by podium footprint, + 0.5 then rounded up (to allow for sleeving).
- Street wall height on corner sites: Where two different street wall heights meet at a corner, the street wall height of the primary street has been applied to the secondary street for a maximum length of 30m.

Towers

- Use: dwellings only.
- Floor area: Total GFA less podium GFA.
- Tower width: minimum 15m, maximum 25m (double loaded).
- Tower floorplate area: maximum 900sqm for buildings up to 15 storeys high, 1,250sqm for taller buildings. In some instances, this was altered in response to the site context and to reach the FAR.
- Apartment orientation: The longer side of a tower floorplate is assumed to have habitable room windows, the shorter side is assumed to have non-habitable room windows or secondary habitable room windows.

Floor area calculations

- Total GFA: The sum of maximum dwelling GFA (based on the maximum FAR), and minimum non-dwelling GFA in core areas. Where the total GFA cannot be achieved within the built form controls, the

residential GFA is reduced to ensure the minimum non-dwelling GFA is achieved.

Precinct	CORE AREA		TOTAL CORE AREA FAR	Non-core area		TOTAL NON-CORE AREA FAR
	Dwelling FAR	Non dwelling FAR minimum		Dwelling FAR	Non dwelling FAR	
Lorimer	5.4:1	1.7:1	7:1	N/A	N/A	N/A
Wirraway	4.1:1	1.9:1	6.0:1	2.1:1	N/A	2.1:1
Sandridge	8.1:1	3.7:1	11.8:1	3.3:1	N/A	3.3:1
Montague	6.1:1	1.6:1	7.7:1	3.0:1	N/A	3.0:1

(Based upon the proposed CCZ and local policy requirements.)

Car parking

- Car parking: 1 space per 100sqm of non-dwelling use, and 0.5 spaces per dwelling.
- Car parking GFA: 30sqm per space.

Dwelling calculations

- Gross to net: 75% (i.e. 25% of the GFA floor area allowed for circulation, services, etc.).
- Average apartment sizes:

Precinct	Apartment size ratio
Lorimer	74
Wirraway	81
Sandridge	74
Montague	77

(From Urban Design Strategy)



Level 2/166 Albert Road
South Melbourne 3205
Victoria

t: +61 3 9682 8568
info@dlaaust.com
www.dlaaust.com

ABN: 45 080 477 523
ACN: 080 477 523